

Steam from steam chest 47 produces useful work at device 32 that deposits condensate in tank 33. Condensate pump 34 feeds water to inductor 36 to combine water mist with steam for injection into the reactor vessel 14. Ultra-sonic cleaner 35 operates intermittently by vibrating the membrane to dislodge scale and other materials deposits.

Alternate embodiments for said membrane include travelling screen that are cleaned above and below the reactor vessel while steam is produced continuously. The flame chamber membrane is presented as a continuous barrier between the Oxyhydrogen flame and the surrounding steam. Oxygen may be substituted other oxidants as air, Oxygen rich air and Hydrogen Peroxide for power enhancement.

#### CLAIMS:

What I claim as my invention is:

1. An improved low cost and more efficient process for producing steam with zero atmospheric emissions comprising:
  - a substantially rigid, hollow housing, closed on the top and bottom, so as to form a closed chamber therein with structural base, capable of maintaining a high pressure; seal means, attached to the top of the said housing forming flame chamber in said housing for defining substantially a space to contain Oxyhydrogen flame in a space surrounded by membrane,

a device to mitigate deposition mineral salts on membrane and additional devices to automatically maintain membrane for optimum heat transfer

a plurality of steam supply nozzles in said housing

a plurality of steam discharge nozzles in said housing

a plurality of water supply nozzles in said housing

an Oxygen and Hydrogen torch in said housing

a thermal insulation system on exterior of said housing

a plurality of steam over pressure protection devices in said housing.

2. The device of claim 1 further comprising a steam reservoir in fluid communication with said housing supplying steam and water into annular space of interior wall of said housing and said membrane.

3. Temperature sensing means of said membrane and additional means to automatically protect said membrane over temperature.

4. A pump with fluid communication from said housing for water to condensate reservoir.

5. The device of claim 1 further comprising automatic Oxygen and Hydrogen burned in stoichiometric proportions for optimum combustion.

6. The device of claim 1 further comprising automatic Oxyhydrogen flame and steam interface by regulation said housing pressure, Oxygen and Hydrogen pressures, steam pressures.
7. The device of claim 1 further comprising combustion of Hydrogen with
- a pressurized air supply,
  - a gas removal system,
  - a fluid treatment by chemicals.
8. The device of claim 1 further comprising combustion of Hydrogen with
- a Oxygen enriched pressurized air supply,
  - a gas removal system,
  - a fluid treatment by chemicals.
9. The device of claim 1 further comprising combustion of Hydrogen with
- a Hydrogen Peroxide,
  - a gas removal system,
  - a fluid treatment by chemicals.

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